

Abstract

“A coating apparatus and method are disclosed that applies a coating to a product in a uniform and controlled manner. The coating apparatus method comprises a feeding stagestep, an optional pre-treatment stagestep, at least one coating stagestep, and a finishing stagestep. The coating stagestep(s) comprise the use of a coating material feeder and a coating device. The During the coating step(s), a substrate passes through an aperture in the coating device, which includes an aperture conforming to the perimeter of a substrate to be coated in a first and second dimension. As the substrate passes through the aperture, coating material is applied in a uniform and consistent layer ranging from 0.001 inches to 0.250 inches. The coating material also back fills minor surface imperfections and blemishes on shell portions, where the substrate to achieve a consistent finish across the whole area where coating material is applied. The coating device includes first and second shell portions. The first shell portion has a concave surface surrounding the aperture portion. The concave surface allows for coating material to collect prior to deposition upon the surface of the substrate. The second shell has a substantially flat face and a mirror aperture that aligns with the aperture of the first shell. The concave surface of the first shell and a [[A]] groove [[is]] formed along the perimeter of the aperture [[to]] collect coating material for coating the object as it passes through the apertures of both shells.”